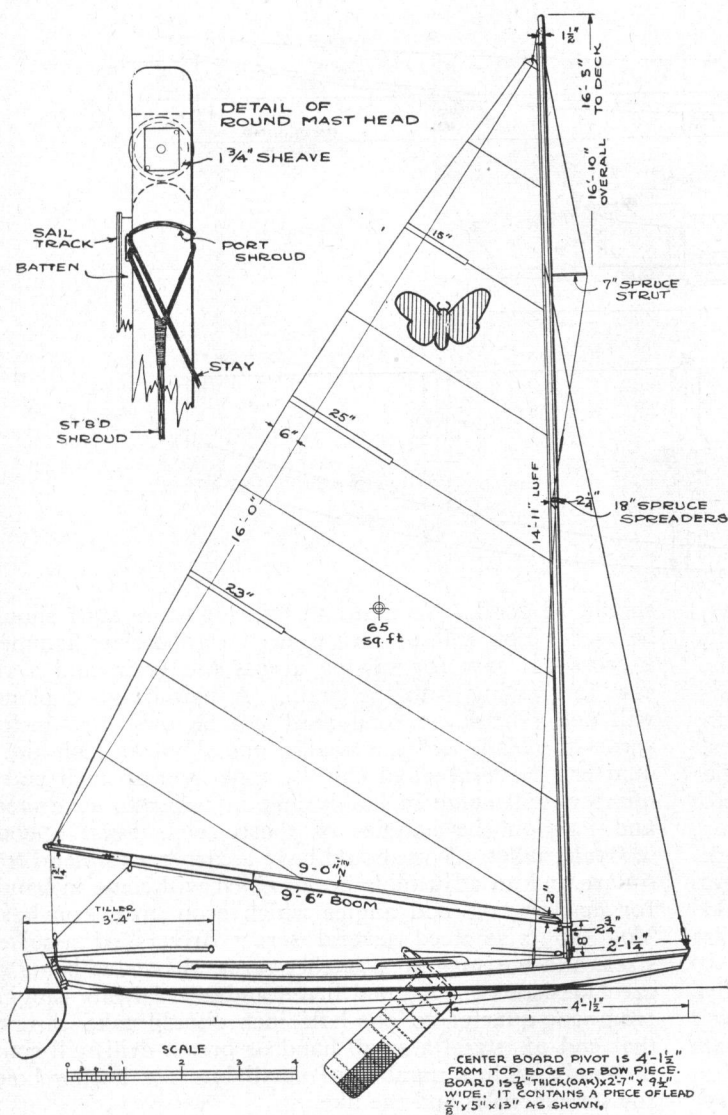


How to Build a Moth Class Boat

Length overall, 10 feet 11 inches
Length waterline, 7 feet 2½ inches
Beam at deck, 4 feet 6 inches
Draft (board down) approx., 1 foot 10 inches
Sail area, 65 square feet

By W. F. CROSBY

PART I



THE Moth class boat is an exceedingly popular little restricted type which has had a great vogue, particularly in the Southern states. As a class, it has been in existence for several years and it represents probably the smallest and cheapest class of racing sailboats ever developed. The design presented on these pages complies in every way with the requirements of the class and a boat built from these plans would, we believe, give an exceedingly good account of herself with the others of the class.

The boat is essentially a one-man racing machine which should be built by the average amateur for considerably less than \$50. This figure may be reduced to less than half the amount by certain amateur builders. If you expect to race a boat of this type, it is highly advisable to get the best suit of sails available for nearly everything depends upon having a good setting mainsail.

The boat itself is so small that it has been designed so that the skipper sits or lies on deck. No cockpit is provided but instead two hand rails which will permit him to hang on under almost any conditions. Should the boat capsize—which she unquestionably *will* do—she cannot fill up, but may be righted and go on in the race!

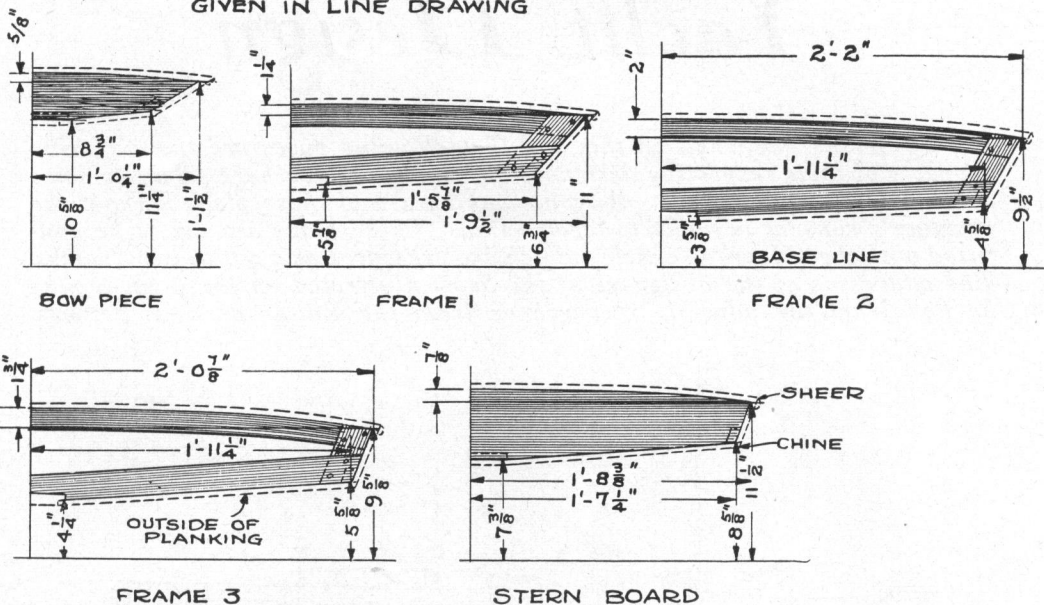
THE RUDDER, believing in advancing in every way the art of boating and in getting the younger generation inter-

ested in the water, wishes to go on record in stating that a boat of this type will give the very keenest of racing and teach youngsters the art of sailing in the shortest possible length of time.

For racing particulars, membership in the association, etc., we refer builders of this boat to the National Moth Boat Association, Box 174, Elizabeth City, North Carolina. Membership is open to yacht clubs holding races in which Moths compete; divisions in which there are five or more owners of the boats, individual members—open to anyone interested in the class. The latter class shall have no vote at the annual meeting. Member clubs shall pay the Moth Boat Association each year ten cents for every member in good standing, but no member club shall pay more than \$10 in any year. Divisions shall pay twenty-five cents for every member in good standing and individual members shall pay \$1.00 a year.

Other Moth boat designs are available from Thomas D. Bowes, Lafayette Building, Philadelphia, Pennsylvania; Cecil McDonald, McDonald's Boat Yard, Daytona Beach, Florida; Lester Leonard, 617 Ballough Road, Daytona Beach, Florida; Harry Andrews, 338 North Massachusetts Avenue, Atlantic City, New Jersey, and E. B. Van Sant, 441 North New Jersey Avenue, Atlantic City, New Jersey. Boats of slightly varying types have

MAKE BOW AND STERN PIECES AND FRAMES TO THESE EXACT DIMENSIONS AND SET UP TO DIMENSIONS AS GIVEN IN LINE DRAWING



THESE DIMENSIONS ARE TO INSIDE OF PLANKING AND DECK FRAMES ARE SPACED 2'-8 3/4" CENTER TO CENTER.

The bow, frames and stern piece dimensions are given above

Unlike most designs, the dimensions of these frames have been given to the *inside* of the planking and when you put the planking on, it will make the boat exactly the size specified. Note also that the decking has been allowed for.

You should pick out a smooth floor or drawing board big enough to take the sections—one over the other—and then strike in the baseline and, at exactly right angles to it, the centerline.

Now let us take Frame 1. The first thing to do is to refer to the line drawing where we discover that the keel is 5 7/8 inches above the baseline. Mark this in on the centerline. The height to chine is 6 3/4 inches from the baseline and the height to the sheer is 11 inches above the baseline. These dimensions should be marked off on the centerline and then, using your square, lay off lines parallel to the baseline for each one. On the one for the sheer, lay off the breadth which is 1 foot 9 1/2 inches. Mark the point of intersection. Now do the same on the chine breadth which is 1 foot 5 7/8 inches. Mark off this point of intersection.

By referring to the sections which show the sizes of materials you will discover that the keel batten is 6 inches wide and since the butt of the frame will have to fit over this, it will be necessary to notch away the foot as shown in the section drawings. The keel itself is 4 inches wide and the notch in the foot of the keel will be 3 inches on each side of the centerline and 5 7/8 inches above the baseline. If you will study the drawings closely you will see exactly what we mean by this notch.

You now have three points of intersection, which if connected together with two straight lines, will give you the exact outline of Frame No. 1 as shown in the drawing. This line represents the *inside* of the planking and the *outside* of the frame. The deck has 1 1/4 inch crown in it at Frame No. 1 and to secure a nice curve in it mark off the 1 1/4 inch on the centerline and then with a pencil attached to a long piece of string swing an arc so that

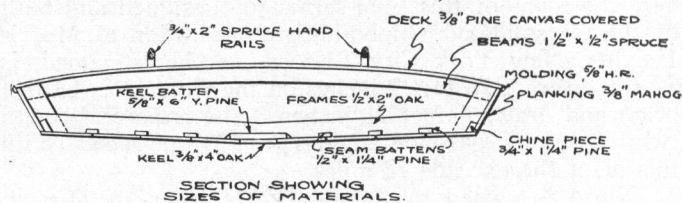
it goes exactly through this point and also the edge of the deck.

You now have the complete outline of Frame No. 1 including the deck crown and the next step is to make the frame itself. This is done very simply by placing the frame material over the drawing and then cutting off the odd material so that the frame is exactly as shown in the drawing. Make both sides of the frame and join them together by a short piece across the bottom. The deck beam will hold the top.

Now go ahead and make the other frames in exactly the same manner. The bow piece and transom or stern piece may be laid out directly on the wood and then cut to shape. Be sure to allow for bevel.

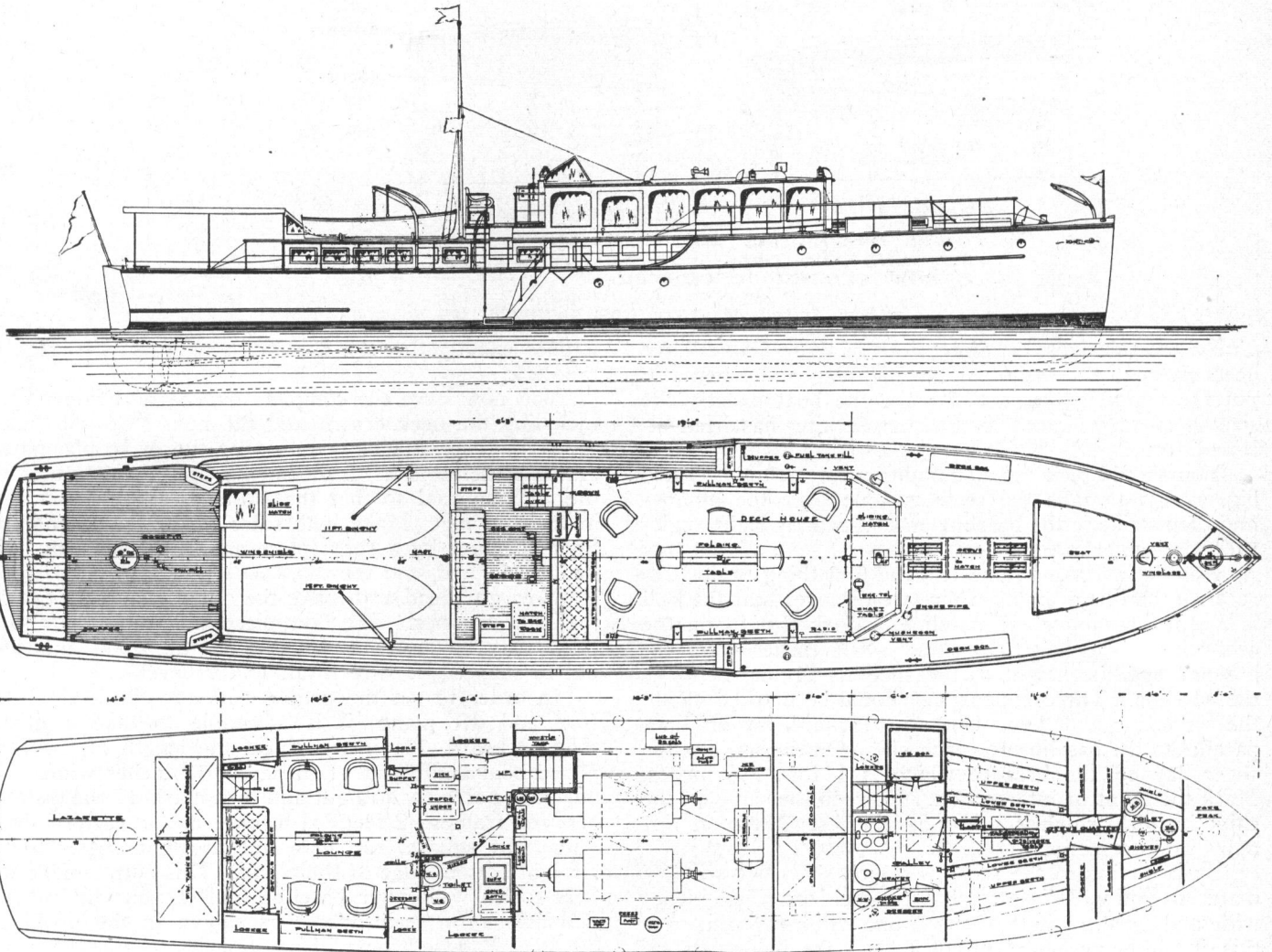
In order to get the proper curve to the keel—in its fore and aft plane—it is advisable to take a heavy, straight board, 1 1/4 inches thick, the length of the completed boat and about 11 inches or 12 inches wide. Get one edge perfectly straight and then mark off the distance between frames—2 feet 8 3/4 inches—and at each of these, with your square, run in a line at right angles to the straight bottom edge of the plank. This bottom edge will correspond with your baseline and if you will use the dimensions for each frame as shown in the profile in the line drawing, you will get a series of spots. At the stem the distance on the line will be 10 7/8 inches, at Frame No. 1 it will be 5 7/8 inches, at Frame No. 2 it will be 3 1/4 inches and so on. This series of dots should be joined together with a fair, sweeping curve which will be the equivalent of the bottom of the keel.

(To be continued)



Yacht Design

The plans published on this and the following pages are the exclusive property of their respective designers and are presented here solely as news of the latest developments. Anyone making use of these plans without the designer's consent is liable to legal action. These plans are not to be confused with the "How-to" articles which are presented as a gift to our readers. The addresses of the designers of the boats illustrated on these pages may be had from the advertising pages or from the Editor of THE RUDDER.



Niord, Express Cruiser

A renewal of interest in this distinctive and typically American style of fast cruiser prompts us to reproduce here the plans of this twin-screw job designed and built by the Consolidated Shipbuilding Corporation of Morris Heights, New York City. Niord, as she is named, is 80 feet overall, 78 feet 7 inches on the water, has 15 feet beam and draws 4 feet 11 inches. She is powered with twin Speedway gasoline engines of 300 hp. each. With this plant she exceeds 22 miles.

Niord is owned by James T. McMillan of Detroit,

Michigan. Features of the design are the large deckhouse with very attractive accommodations, the open bridge with all controls (duplicating those in the forward end of the saloon deckhouse) and the really huge seat forward. Those who like their sunlight can have no quarrel with this layout as both protection and openness are offered in large quantities.

Unlike the average arrangement in a craft as large as this one finds no built-in open berths in the owner's stateroom aft. Only Pullman berths are provided.